REMARKS:

Applicant, his principal representatives in Germany and the undersigned have carefully reviewed the non-final Office Action of June 23, 2010, in the subject U.S. patent application, together with the prior art now cited and relied on in the rejection of the claims. In response, the claims of the application have again been amended in a further effort to patentably define the subject invention over the prior art cited and relied on by the Examiner in the rejection of the claims. It is believed that the claims which are now pending in the subject application are patentable over the prior art cited and relied on for the reasons to be discussed in detail below. Reexamination and reconsideration of the application and allowance of the claims is respectfully requested.

In the subject application, as described in the Substitute Specification, as amended, as depicted in the accompanying drawings, and as recited in the currently amended claims, there is a roller train that defines a fluid stream in one of an inking system and a dampening system in a printing press. The printing press includes a number of printing units, such as the one depicted at 300 in Fig. 3. That printing unit 300 includes an inking system 305 and a dampening system 306. In each of these two systems, a fluid stream is carried from a supply roller 313; 330 to one or more fluid application rollers 322, 323, 325; 328. In each of these roller trains there is situated at least one reciprocating fluid distribution roller that is located intermediate the supply roller and the one or more application rollers. In the inking system seen in Fig. 3, there are at least three such distribution rollers 316, 321 and 324. In the dampening system, there is at least one such distribution roller 329. It is to be noted that in both the inking system 305 and the dampening system 306, the ink distribution roller or rollers are, as is

recited in the claims currently pending in the subject application, in the fluid stream from the supply roller to the application roller. This means that each such distribution roller is in contact with at least two other rollers and facilitates the passage of the fluid in the fluid supply stream from its source of supply, at the supply roller, to its point of application to the forme cylinder at the application roller or rollers.

Each such distribution roller is positively driven for rotation about its longitudinal axis of rotation. Each such distribution roller is supported by spaced lever arms so that it can be moved perpendicularly to its axis of rotation. In accordance with the present invention, the distribution roller is also positively driven for accomplishing its reciprocating or traverse movement along the roller's axis of rotation. The drive mechanisms that accomplish this positive movement are carried by the two spaced pivotable levers that support the distribution roller or rollers.

Referring now to Fig. 11 and Fig. 12, there may be seen a depiction of a portion of a fluid stream in accordance with the present invention. This is a depiction of the dampening system since it uses fewer rollers and is thus more easily depicted and understood. As seen in Fig. 12, the supply roller 330, which, in this embodiment, is supported for movement by a pair of pivotable lever arms 366, is in engagement with the traversing distribution roller 329. In accordance with the present invention, the traversing distribution roller 329, which is in the fluid stream, is supported for pivotable motion, with regard to the supply roller 330, by its own pair of spaced pivotable lever arms 364. It will be understood that the supply roller 330 and the distribution roller can, in this configuration, both be pivoted as a unit by movement of the pivotable arms 366. The distribution roller 329 can also be pivoted with respect to the supply roller 330 by

movement of its spaced lever arms 364 with respect to the supply rollers spaced lever arms 366.

As is also seen in Fig. 12, one of the lever arms 364 of the distribution roller 329 is provided with a rotary drive for the roller. That rotary drive is depicted at 367 in Fig. 12. As may be seen in Fig. 13, that distribution roller rotary drive 367 is a motor that is connected, by a set of bevel cylinders 369, to the shaft 376 of the distribution roller 329. The motor 367 and bevel gears 369 are mounted on one of the levers 364 which support the distribution roller 329. An angle compensating coupling 375 and a slidable coupling assembly 377 allows the distribution roller 329 to move traversely along its axis of rotation while it is still positively driven by the rotary drive 367 through the bevel gears 369 and the shaft 376.

At the other end of the distribution roller 329, again as may be seen in Fig. 12, there is provided a traversing drive 374 for the distribution roller. This traversing drive 374 can be seen more clearly in Fig. 14. It includes an outer sleeve 378 that is secured to the second pivotable lever arm 364 which supports the distribution roller 329. An inner bushing 381 is attached to the shaft 395 of the distribution roller. An annular gear 380 is positioned on an eccentric 382 that is supported by the distribution roller shaft 385. That annular gear 380 engages teeth on an inner circumference of the outer sleeve 378 and causes the inner bushing 381 to rotate in the outer sleeve 378 by the use of a flexible connection 379. The outer sleeve 378 has a stop or pin 401 which follows a cam groove 400 in the inner bushing 381. The result is that the traversing drive 374 is able to convert the rotational movement of the distribution cylinder 329 into traversing movement along the axis of rotation of the distribution cylinder 329.

In summary, as seen in Figs. 12-14, and as also seen in Fig. 11, the distribution roller 329 of the fluid system in accordance with the present invention is supported for movement perpendicular to the axis of rotation by spaced lever arms. The distribution roller 329 is positively driven for rotation about the axis of rotation and is also positively driven for traverse motion along its axis of rotation. These movements are accomplished by drive mechanisms which are supported on the spaced lever arms which allow the movement of the distribution rollers perpendicularly to its axis of rotation. These structural elements are not shown or suggested in the prior art, as will be discussed below. It is thus believed that the claims now pending in the application are patentable over the prior art cited and relied on.

In the non-final Office Action of June 23, 2010, claims 49 and 57 were objected to. It was asserted that the subject matter of the two claims was not significantly different. It was requested that one of the two claims be amended or cancelled. In response, both of claims 49 and 57 have been amended. Claim 57 now depends from independent claim 52. Claim 49 continues to depend from independent claim 47.

Claims 47-49, 51, 57 and 60 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent No. 4,481,882 to Rudolph in view of U.S. patent No. 4,646,638 Theilacker. Claims 50 and 52-54 were rejected under 35 U.S.C. 103(a) as being unpatentable over Rudolph in view of Theilacker and further in view of U.S published patent application No. 2004/0139870 to Masuch. Claim 58 was rejected under 35 U.S.C. 103(a) as being unpatentable over Rudolph in view of Theilacker and further in view of U.S. published patent application No. 2004/0107848 to Christel. Claim 59 was rejected under 35 U.S.C. 103(a), as being unpatentable over Rudolph in view of

Theilacker and further in view of U.S. patent No. 6,546,865 to Fischer.

Referring initially to the rejection of independent claims 47-49, 51, 57 and 60 as being unpatentable over Rudolph in view of Theilacker, a careful reading of the two documents fails to support various ones of the assertions made by the Examiner in the Office Action. Further, the combination suggested by the Examiner in the Office Action would not be one that would be readily apparent to one of skill in the art, would not meet the limitations of the pending claims and would not result in the subject invention, as recited in claims 47-49, 51, 57 and 60.

In the Office Action, it is asserted that Rudolph teaches a roller 7 for use in at least one of an inking system and a dampening system. It is asserted that roller 7 is part of a fluid stream that extends from a supply roller 5 to a forme cylinder 2. The roller body of what is assumed to still be roller 7 is recited as having roller body ends. Means indicated in the Office Action at 19, 19' are asserted as supporting the ends of the roller body, again not numbered but still assumed to be roller 7. It is specifically recited in the Office Action that Rudolph discloses a rotary roller drive mechanism and means for supporting each of the roller body ends for movement in a direction that is perpendicular to the axis of rotation of the roller body, relying on column 3, lines 14-64 and Fig. 1 of Rudolph.

Rudolph was admitted as not having a roller body drive mechanism including a roller drive motor located at one of the roller body ends. Rudolph was also admitted as not showing or disclosing a roller traversing drive mechanism at the other end of the roller body. Rudolph was further noted as failing to show that the means for supporting the roller body also support the non-existent roller traversing drive mechanism and the

roller rotary drive mechanism asserted to be disclosed by Rudolph.

The secondary reference to Theilacker was cited as allegedly providing the features of the claims which were admitted as being missing in the Rudolph reference. Specifically, Theilacker was described as showing a roller for at least one of an inking system and a dampening system. The roller was presented as having a roller rotary drive mechanism at one end and a roller traversing drive mechanism 80 at the other end. It was asserted that it would have been obvious to modify Rudolph, in accordance with the alleged teachings of Theilacker, to arrive at the subject device, as recited in claims 47-49, 51, 57 and 60. The undersigned respectfully disagrees for the following reasons.

The patent to Rudolph, U.S. patent No. 4,481,882, is directed to a device that is usable to adjust ink or moisture-application rolls in a printing machine. The application of ink or dampening fluid to a printing plate 1 carried on a printing cylinder 2 is accomplished by a two-step process. Initially, rods 13, which are connected to eccentrics 10, are moved to shift a feeding roller 7 into contact with a moisture-application roller 3. Once that contact has been established, the continued movement of the eccentric rods 13 will move double armed levers 19, against resistance supplied by springs 25, to move the moisture-application roller 3 into engagement with the printing cylinder 1.

Referring to Fig. 3 of Rudolph, the feeding roller7 is provided with shaft ends 8 that carry what are referred to as centric bushings 9. These bushings 9 are supported in spaced walls 11 of the machine. It is thus initially to be noted that the two ends of the roller body of the feeding roller 7 are not supported on spaced lever arms. An eccentric

10 is carried by the centric bushing 9 and is located inside each respective machine wall 11. Each such eccentric is provided with a rod 13 that extends radially away from its respective eccentric 10 and which has a free end that is connected, by a pivot pin 14, to a piston rod of a pneumatic working cylinder 15. A double arm lever 19 is, in turn, supported by each one of the eccentrics 10. An upper arm 20 of the double arm lever 19 supports the moisture-application roller 3. A lower arm 23 of the double arm lever 19 is provided with a recess 24 that receives a first end of a compression spring 25. A second end of that compression spring 25 is held in place by a setting device 26.

As was summarized above, when air under pressure is applied to the working cylinder 15, the piston rod is extended out of the cylinder. A seen in Fig. 1, that causes the rod 13 of the eccentric 10 to move in a clockwise direction. This will operate the eccentrics 10 to move the feeding roll 7 into contact with the application roller 3. During this initial movement of the eccentric rods 13, the double arm levers 19 are prevented from moving by the spring force exerted by the spring 25.

At the point where the eccentric rod 13 has moved sufficiently to the right, as seen in Fig. 1, it engages a lever stop 21 which is carried on each double armed lever 19. Upon such engagement of the eccentric rod 13 with the lever stop 21, further movement of the eccentric rod 13 will now rotate the double arm lever with the eccentric rod, overcoming the force of the spring 25 and moving the application roller 3 into contact with the printing cylinder as depicted in Fig. 2.

Returning to the discussion of the Rudolph reference in the June 23, 2010 Office Action, several incorrect interpretations of the Rudolph reference will be readily apparent. It is asserted that the roller 7 has first and second roller body ends and that

these ends are supported by means 19, 19'. In fact, the roller 7 has roller body ends 8', 8", that are each supported by centric bushings 9 in the machine frames 11. It is the application roller 3 that is supported, assumedly at its ends, by upper arms 20 of the double arm levers 19. The Office Action is not clear as to which roller is being asserted as being supported by the means 19, 19'. However, it is clear that the application roller 3, which is moved into direct contact with the printing cylinder 2, is the roller that is disclosed in the Rudolph reference as being supported by the double armed levers 19. The roller 7, which is the roller initially identified in the discussion of the Rudolph reference in the Office Action, is not supported by the double armed levers 19.

Rudolph is recited as disclosing a roller rotary drive mechanism. There is no such drive mechanism disclosed for either roller 7 or roller 3 of Rudolph. A careful reading of the Rudolph reference fails to locate any discussion of any type of rotary drive mechanism for either the feeding roller 7 or the application roller. In the absence of any such discussion, it must be assumed that the feeding roller 7 is driven by the frictional engagement with the intermediate roll 6 and that it, in turn, drives the ink application roll 3 by friction.

The secondary reference, U.S. patent No. 4,646,638 to Theilacker, does not provide the features of currently amended, independent claim 47 that are missing from the Rudolph reference. It is initially to be noted that each of the three embodiments of the Theilacker device is directed to an axially oscillating rider roller. In at least the embodiment depicted in Fig. 3 and relied on in the Office Action, the rider roller has two jacket halves 63 and 64 which are eccentrically offset from each other. This means that not all of the roller's surface is in contact with the application roller 61. It is also to be

noted that the roller 61 of Theilacker is recited as preferably being an ink application roller for applying ink to a plate cylinder of a rotary printing machine. The roller 60 of Fig. 3 of Theilacker is supported at it ends by shaft ends 66 and 67. Each of these shaft ends is situated in a fixed sleeve element 82 or 83 that is, in turn, attached to the side frames 70 and 71 of the printing press. It is thus more like roller 7 of Rudolph in its attachment to the side frame but would be more apt to engage the roller 3 of Rudolph because of its recitation as being in contact with an ink application roller.

The roller 60 of Theilacker is frictionally driven by its engagement with the ink application roller. As recited at column 2, lines 34-36, the roller, which is the equivalent to the roller 60 of Fig. 3, is not driven circumferentially. It receives its rotary drive power from frictional engagement with roller 2. Referring now to the bottom of column 6 and continuing at the top of column 7, the roller jackets 63 and 64 of the roller 60 will be in frictional engagement with the fluid or liquid carrying roller 61. It is noted that the discussion in the Office Action, at the second full paragraph on page 3 thereof, asserts that Theilacker provides a rotary drive mechanism 72 to rotate the roller body. That assertation is not correct. The drive 72 turns a gear 74 which is secured to the roller shaft 65. The end of the roller shaft 65 opposite to the gear carrying end is provided with a traversing mechanism. However, the jackets 63 and 64 of the roller 60 are supported on the shaft 65 by bearings 75-78. They rotate independently of the shaft 65 and only as a result of their frictional contact with the ink application roller 61.

If one were to combine the Rudolph and Theilacker references, the result would be a device where the axially traversing roller 60 of Theilacker would be mounted between side frames and would engage the ink application roller 3 of Rudolph. Since

the Rudolph ink application roller 3 is mounted between the two upper arms 20 of the double arm levers 19, it is not clear how the roller 60 of Theilacker would be in contact with it as it is moved between the two portions depicted in Fig. 1 and Fig. 2 of Rudolph. Further, there is no discussion in either Rudolph or Theilacker for the positive rotational drive of any of the rollers. The Rudolph patent is completely silent in that respect. The Theilacker patent discusses frictional rotational drive.

Claim 47, as amended, recites that the roller is a distribution roller in a roller train and is located intermediate the supply roller and the ink application roller. The roller 60 of Theilacker is not in such a roller train. It is engageable only with the ink application roller 61.

Claim 47 recites a distribution roller rotary drive mechanism including a rotary drive motor. That roller rotary drive machine is recited as being located on one of the first and second pivotable levers that support the distribution roller. Neither Rudolph or Theilacker disclose any type of distribution roller rotary drive mechanism including a drive motor supported on a pivotable lever. Rudolph shows its roller 7 secured to the frame. Its application roller 3 is supported by pivotable double arm levers but that is not the roller which is equivalent to the distribution roller of the subject invention as recited in currently amended claim 47. In both of Rudolph and Theilacker, the only rotary drive for the rollers of interest is a frictional drive.

Claim 47, as amended, recites a distribution roller traversing drive mechanism located at the second end of the distribution roller body and supported by the other one of the two pivotable levers. In Rudolph, there is no traversing roller. In Theilacker, the traversing roller 60 is caused to move axially by a drive motor 72 which is attached to

one of the frame side walls 71. That motor 72 drives a shaft 65 which is used to operate a traversing mechanism which is located on the end of the shaft 65 opposite from the motor 72. The traversing mechanism of Theilacker is thus attached to both ends of the shaft 65 of the rider roller 60 and is attached to the side frames 70, 71, not to pivotable levers. For all of these reasons, independent claim 47, as currently amended, is not believed to be obvious over the teachings of the Rudolph and Theilacker references, taken either singly or in combination.

Claim 48 has been incorporated into claim 47 and has been cancelled. It is again noted that the Rudolph reference teaches the support of the ink application roller 3 between the spaced upper arms 20 of the double armed pivot levers 19. Rudolph does not teach or disclose any type of drive for either the traversing distributing roller 7 or the ink application roller 3. The reference to column 3, lines 14-62, and to Fig. 1 of Rudolph fails to provide any teachings of any type of drive motor or turning drive.

Claim 52, the second independent claim now pending in the subject application, was rejected under 35 U.S.C. 103(a) as being unpatentable over Rudolph in view of Theilacker and further in view of U.S. published patent application No. 2004/0139870 to Masuch. It was asserted that Rudolph and Theilacker teach all that is recited in claim 52, and that Masuch shows a rotary drive motor fixed in place in an axial direction of a roller 1, together with a coaxial drive shaft and a coupling 18, with that coupling allowing traverse movement of the roller body with respect to the drive shaft.

Claim 52 has been amended in a manner similar to claim 47. As amended, it now recites a roller train defining a fluid stream and including a supply roller, an application roller, and a distribution roller located in the fluid stream. Claim 52 has been

amended to recite the presence of spaced first and second pivotable levers supporting the first and second roller ends. Claim 52 further recites the presence of a roller body traversing drive mechanism at a first end of the roller body on one of the first and second pivotable levers. Claim 52 further recites the presence of a roller rotary drive machine located at the second end of the roller body on the other of the two pivotable levers and usable to rotate the roller body about its axis of rotation. Claim 52 further recites a coaxial drive shaft and a coupling in the distribution roller drive mechanism. That drive shaft is recited as being fixed in place in the direction of the axis of rotation of the roller body. The coupling is adapted to transmit torque from the roller rotary drive mechanism to the roller body and to permit axial traversing movement between the drive shaft and the roller body.

Claim 52, as amended, is believed to be patentable for all of the reasons set forth with respect to previously discussed, independent claim 47 as currently amended. In addition, claim 52 recites the inclusion of a coaxial drive shaft and coupling in the distribution roller rotary drive mechanism. In the Masuch reference, there is depicted, at Fig. 2 thereof, a forme cylinder 02 which is driven by a drive motor 03 through the use of a coupling 18. That coupling 18 is recited as having a length L that can be varied and is recited as being, in particular, an expansion coupling.

It is noted that the cylinder 01 of the Masuch reference is a forme cylinder and is not part of a roller train defining a fluid stream between a supply roller and an application roller engageable with such a forme cylinder. If one were to combine the teachings of the Masuch reference with those of the Rudolph and Theilacker references, it would be logical to use the teachings of the Masuch reference to show a

drive assembly for the forme cylinder, not a drive assembly for an ink distribution roller located upstream of an ink application roller which itself would be engageable with the forme cylinder. The Masuch device shows a forme cylinder that is being driven by the drive motor and coupling. Such a forme cylinder would not be expected to move in its axial direction. While the coupling shown in Fig. 2 of Masuch may be length adjustable, that is not so that it can be used with a forme cylinder which is axially traversable. Forme cylinders do not shift axially. It is thus believed that claim 52, as currently amended, is patentable over the prior art cited and relied on.

It is noted that dependent claim 50 and independent claim 57 are somewhat similar. It is to be noted that there are differences in their structural recitations. It is believed that both claims are patentable and that they are not duplicative of each other.

The rest of the claims now pending in the subject application are all dependent on either independent claim 47 or independent claim 51, both as currently amended. It is believed that all of these dependent claims are also patentable.

The published patent application No. 2004/0107849 to Christel has been reviewed. It was cited as showing a lubricant chamber and an angle compensating coupling. It does not show the features of the two independent claims that are missing from the Rudolph and Theilacker references.

The issued U.S. patent No. 6,546,865 to Fischer was also noted. It was cited showing a drive system comprising a roller, a traversing cam gear and a reduction gear. As was the case with the Christel reference, Fischer is believed not to provide the structure of currently amended claims 47 and 52 which is absent from the Rudolph and Theilacker references.

SUMMARY:

Independent claims 47 and 52, as well as various ones of the currently pending dependent claims have been amended. It is believed that the claims which are now pending in the subject U.S. patent application are patentable over the prior art cited and relied on.

Allowance of the claims and passage of the application to issue is respectfully requested.

Respectfully Submitted,

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